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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,199	10/10/2003	Malcolm D. McGinnis	13525 C1	5067

7590 10/18/2006

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EXAMINER	
TUNG, JOYCE	

ART UNIT	PAPER NUMBER
1637	

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/684,199	MCGINNIS ET AL.	
	Examiner	Art Unit	
	Joyce Tung	1637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/28/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The applicant's response filed 7/28/2006 to the Office action has been entered. Claims 1-14 are pending.

1. The rejection of claims 1-14 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 6,635,419 is withdrawn because of the terminal disclaimer filed.

2. The rejection of claims 1-4 and 6-14 under 35 U.S.C. 103(a) as being unpatentable over Grossman et al. (5,580,732, issued December 3, 1996) is withdrawn because of the argument.

3. The rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Grossman et al. (5,580,732, issued December 3, 1996) as applied to claims 1-4 and 6-14 above, and further in view of Levis et al. (5,210,412, issued May 11, 1993) is withdrawn because of the argument.

NEW GROUNDS OF REJECTIONS

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-5 and 7-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Grossman et al. (US 2005/0112608, issued May 26, 2005).

Grossman et al. disclose a method of distinguishing different-sequence polynucleotides electrophoretically in a sieving medium (See pg. 3, [0050], pg.16, claim 15). The method applies

a target-specific primer, which carries a polymer chain (See pg. 10, [0170] &[0171]). The polymer chain imparts to each amplified fragment, a distinct mobility (See pg. 3, [0051] & pg. 10, [0170]&[0171]). The polymer chain should not effect hybridization reaction (See pg. 5, [0095]). In a sieving matrix, the mobility of non-derivatized polynucleotides depends on net charge and on size, with smaller polynucleotide migrating more rapidly than larger polynucleotides. Thus, any polymer chain can be used to impart lower probe mobility, by increasing the overall size of the probe to which the polymer chain is attached (See pg. 8, [0138]). For sequencing DNA, dideoxy chain terminator is used. The 3'-end of the dideoxy terminator is labeled with spectrally resolvable dyes to distinguish the 3'-terminal nucleotide of each different-sequence polynucleotide (See pg. 16, claims 17-18). The label can be radioisotope label or fluorophore label (See pg. 4, [0084]). The separating is performed by capillary electrophoresis (See pg. 4 [0079] & pg. 8, [0137]).

Grossman et al. do not explicitly disclose the limitations of claims 12-14 that the mobility-reducing moiety is effective to decrease the mobility rate of each primer extension product in an amount equivalent to at least 10, 15 or 20 additional nucleotide bases.

However, Grossman et al. disclose that polymer chain imparts to a probe, an electrophoretic mobility that depends on the subunit length of the polymer chain (See pg. 7, [-124]). In a sieving matrix, the mobility of non-derivatized polynucleotides depends on net charge and on size, with smaller polynucleotide migrating more rapidly than larger polynucleotides. Thus, the teachings of Grossman et al. anticipate the limitations of the claims.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grossman et al. (US 2005/0112608, issued May 26, 2005) as applied to claims 1-5 and 7-14 in view of Nguyen et al. (5656145, issued August 12, 1997).

The teachings of Grossman et al. are set forth in section 5 above. Grossman et al. do not disclose Slab gel electrophoresis.

Nguyen et al. disclose slab gel electrophoresis, which is widely used in nucleic acid sequencing (See column 1, lines 10-11).

One of ordinary skill in the art would have been motivated to apply the slab gel electrophoresis in the method of Grossman et al. for nucleic acid sequencing because as indicated by Nguyen et al. the slab gel electrophoresis is widely used in nucleic acid sequencing

(See column 1, lines 10-11). It would have been prima facie obvious to use the slab gel electrophoresis for nucleic acid sequencing as recited in claim 6.

Summary

8. No claims are allowable.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joyce Tung whose telephone number is (571) 272-0790. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joyce Tung
October 11, 2006

KENNETH R. HORLICK, PH.D
PRIMARY EXAMINER
10/12/06